Boeckh M, Nichols WG et al, BBMT 2003) have demonstrated that at least some CMV seropositive transplant recipients appear to have a persistent mortality disadvantage when compared to their seronegative counterparts. The specific transplant characteristics that underlie this relationship remain unclear, but most studies have focused on the impact of serostatus on mortality after T-cell depleted transplantation. We tested the hypothesis that CMV serostatus influences mortality among recipients of T-cell-replete transplants from mismatched or unrelated donors (MM/URD, n = 1001) but not matched sibling donors (MSD, n = 749) in the preemptive era. **Methods:** The impact of CMV serostatus (+ or −) of the donor (D) and recipient (R) on overall mortality was assessed among 1750 consecutive allogeneic HSCT recipients at our center by means of multivariable regression models. Supportive care for this cohort included preemptive ganciclovir, which was applied for any level of pp65 antigenemia and continued until day 100 after transplant. **Results:** Among recipients of transplants from matched sibling donors, overall mortality among R+ and D+/R-patients was comparable to that of D-/R-patients after adjusting for patient/donor age, underlying disease and disease-specific risk, conditioning regimen, cell source, GVHD prophylaxis, cell dose, and year of transplant (Table). Overall mortality was significantly higher, however, among both seropositive recipients and D+/R-patients when compared to D-/R-patients in the setting of mismatched sibling or unrelated donor (MM/URD) transplantation. Formal tests for interaction according to donor type yielded suggestive trends for the D-/R+ and D+/R-groups (p = 0.13 and 0.16, respectively). **Conclusions:** Preemptive strategies appear to be effective for recipients of MSD HSCT, yet fail to eliminate the mortality associated with CMV seropositivity among recipients of mismatched or unrelated donor transplants. New drugs and new approaches (including possible re-examination of antiviral prophylaxis) are clearly needed for these high-risk patients.

Table. *CMV Serostatus and Mortality after HSCT*

Donor/Recipient CMV Serostatus	Hazard Ratio for Mortality (95% CI) MSD (n = 749)	MM/URD (n = 1001)
D−/R− (n = 628)	1.0 (ref)	1.0 (ref)
D+/R+ (n = 467)	1.07 (0.81-1.42)	1.26 (1.01-1.58)
D−/R+ (n = 393)	0.90 (0.65-1.24)	1.29 (1.04-1.60)
D+/R− (n = 262)	0.98 (0.70-1.38)	1.36 (1.06-1.74)

Abbreviations: MSD, matched sibling donor; MM/URD, mismatched or unrelated donor.

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SOURCE OF DONOR STEM CELLS IMPACTS INCIDENCE OF BLEEDING AND PLATELET AND RBC TRANSFUSION REQUIREMENTS DURING STEM CELL TRANSPLANTATION (SCT): RESULTS OF THE PHASE III SPRINT TRIAL OF INTERCEPT PATHOGEN INACTIVATED PLATELETS

Vesole, D.[1], Stadtmauer, E.[2], Goodnough, L.T.[3], Coutre, S.[4], Howard, F.[5], Lin, J.-S.[6], Conlan, M.G.[6], for the SPRINT Study Group 1. Med College WI, Milwaukee, WI; 2. Univ of PA Health System, Philadelphia, PA; 3. Washington Univ Sch Med., St. Louis, MO; 4. Stanford Univ Sch Med, Stanford, CA; 5. Loma Linda Univ Cancer Inst., Loma Linda, CA; 6. Cerus Corporation, Concord, CA

Background: INTERCEPT Platelets (IP) are prepared with Helinx® technology (amotosalen HCl and UVA) to inactivate a broad range of viruses, bacteria, and protozoa, as well as WBCs which can cause transfusion reactions and TA-GVHD. **Methods:** A double-blind, parallel group Phase III trial (SPRINT) randomized patients (pts) with malignancy undergoing chemotherapy only (CTX) (19%) or SCT (78%) to treatment with IP or Reference (RP) platelet (plt) transfusions (tx) for up to 28 days. The prophylactic tx threshold, selected by the treating physician, was 10×10^9/L in 61% and 20×10^9/L in 26% of pts. **Results:** 645 pts were tx'ed (318 IP vs 327 RP). The primary endpoint, equivalence of IP to RP in the control of moderate and severe (WHO Grade 2 and higher) bleeding, was demonstrated. Diagnosis (dx) and anti-neoplastic regimen (SCT vs CTX) were well balanced between IP and RP. 65% of SCT were autologous (auto) and 35% were allogeneic (allo); 70% were peripheral blood (PB) and 26% bone marrow (BM). 86% of PBSCT and 18% of BMT were auto. There were significant differences in dx, plt tx threshold, duration of plt support, no. of plt and RBC tx, and incidence and duration of Grade 2 or higher bleeding among auto SCT, allo SCT, and CTX pts (all p-values < 0.01). Leukemia was more common in allo than auto SCT; lymphoma, plasma cell dyscrasia, and solid tumor were more common in auto than allo SCT; acute leukemia was the most common dx for CTX pts (p < 0.001). Pts receiving auto SCT had the lowest tx threshold, shortest duration of plt support, fewest plt and RBC tx, and the lowest incidence and duration of Grade 2 or higher bleeding. Allo SCT were on the other extreme, and CTX pts were intermediate. No difference in incidence or duration of bleeding was observed between IP and RP for SCT pts. **Conclusions:** Allo SCT was associated with a longer duration of plt support, more plt and RBC tx, and a higher incidence and duration of significant bleeding than auto SCT or CTX. INTERCEPT Platelets were as effective as Reference platelets in control of Grade 2 and higher bleeding regardless of dx, anti-neoplastic tx, or stem cell source.

Table. *Study Endpoints for SCT Patients*

Endpoint	Auto SCT IP (N = 154)	Auto SCT RP (N = 171)	Auto SCT P Value	Allo SCT IP (N = 86)	Allo SCT RP (N = 91)	Allo SCT P Value
Plt tx threshold 10×10^9/L (%)	70	68	0.29	48	46	0.82
Grade 2 bleeding (% pts)	46	51	0.44	73	74	1.00
Grade 3/4 bleeding (% pts)	0	2	0.25	9	10	1.00
Days of Grade 2 bleeding	1.9	1.4	0.10	5.0	4.9	0.83
Duration plt support (d)	8.8	7.2	0.05	16.8	16.7	0.88
No. plt tx	5.7	3.7	<0.01	14.0	11.3	0.07
No. RBC tx	3.4	2.7	0.04	6.1	6.6	0.58

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LONG-TERM, APHERESIS/HEMODIALYSIS CATHETERS DECREASE THE INCIDENCE OF CATHETER-RELATED BLOOD STREAM INFECTIONS (CR-BSI) AND VENOUS THROMBOSIS (VT) IN PATIENTS WITH AL AMYLOIDOSIS (ALA) UNDERGOING HIGH-DOSE MELPHALAN AND AUTOLOGOUS STEM CELL TRANSPLANT (AUSCT)

Finn, K., Sanchorawala, V., Seldin, D., Kunz, R., Quillen, K. Boston Medical Center, Boston, MA

Reported catheter-related complications (CRC) during AuSCT include blood stream infections (BSI), non-patent catheters, catheter site bleeding and VT. ALA patients with nephrotic syndrome have a greater risk of infection and VT. We performed a retrospective review of CRC in 196 ALA patients receiving either a 12 fr non-tunneled catheter (NTC) or a 14 fr tunneled/cuffed catheter (TC). Catheters were intended to be used from stem cell collection through chemotherapy and re-engraftment, were inserted by interventional radiology, and were cared for with the same catheter care regimen. The majority of the NTC's (n = 103) were inserted on the left side and the TC (n = 93) were inserted on the right side. The NTC group had 6 CR-BSI and 5 VT, and the TC group had none. Line patency problems occurred in the NTC group but not with TC: they were resolved in the NTC group after the catheter instillation policy was changed from a heparin diluted with saline solution to approximately 3000U/cc to an undiluted heparin concentration of 5000U/cc. Bleeding around the catheter